IN THE CLAIMS:

Amend the claims as follows:

Claims 1-33. (Canceled)

34. (new) A recombinant baculovirus having a baculovirus envelope protein, comprising a heterologous nucleic acid sequence operatively associated with a eukaryotic promoter sequence active in nerve cells, the heterologous nucleic acid sequence encoding a product of therapeutic interest for the treatment of diseases of the nervous system.

35. (new) Baculovirus according to claim 34, wherein the heterologous nucleic acid sequence comprises an antisense sequence or a gene.

36. (new) Baculovirus according to claim 35, wherein the heterologous nucleic acid sequence is a gene that encodes a compound selected from the group consisting of a hormone, a lymphokine, a growth factor, an enzyme for synthesizing a neurotransmitter, a trophic factor, a protein involved in the metabolism of an amino acid, a protein involved in the metabolism of a lipid, and a protein involved in the metabolism of a carbohydrate.

37. (new) Baculovirus according to claim 36, wherein trophic factor is selected from the group consisting of a neurotrophin, a member of the CNTF (Ciliary

NeuroTrophic Factor) family, a member of the IGF (Insulin Like Growth Factor) family, and a member of the FGF (Fibroblast Growth Factor) family.

38. (new) Recombinant baculovirus according to claim 37, wherein said recombinant baculovirus expresses an envelope protein that is foreign to a baculovirus.

39. (new) Recombinant baculovirus according to claim 38, wherein the envelope protein comprises the glycoprotein of the rabies virus or the glycoprotein of VSV (Vesicular Stomatitis Virus).

40. (new) Baculovirus according to claim 34, wherein the promoter sequence is selected from the group consisting of the Neuron Specific Enolase (NSE) promoter sequence, the Neurofilament (NF) promoter sequence, the Tyrosine Hydroxylase (TH) promoter sequence, the Dopamine Transporter (DAT) promoter sequence, the Choline Acetyl Transferase (ChA) promoter sequence, the Dopamine β-Hydroxylase (DBH) promoter sequence, the Tryptophan Hydroxylase (TPH) promoter sequence, the Glutamic Acid Dehydrogenase (GAD) promoter sequence, and the Glial Fibrillary Acidic Protein (GFAP) promoter sequence.

41. (new) Recombinant baculovirus according to claim 34, further comprising a signal sequence to induce secretion of specific compartmentalization of the therapeutic product.

42. (new) A population of cells of the nervous system, which is infected with the recombinant baculovirus of claim 34.

43. (new) An implant comprising human cells infected with a recombinant baculovirus of claim 34.

44. (new) A pharmaceutical composition comprising a recombinant baculovirus of claim 34, in combination with a pharmaceutically acceptable vehicle.

45. (new) Baculovirus according to claim 37, wherein the neurotrophin is selected from the group consisting of NGF (Nerve Growth Factor), BDNF (Brain-Derived Neurotrophic Factor), NT3 (Neurotrophin-3), NT4/5 (Neurotrophin-4/5), and NT6 (Neurotrophin-6); the member of the CNTF family is selected from the group consisting of CNFT (Ciliary NeuroTrophic Factor), axokine, LIF (Leukemia Inhibitory Factor), IL6 (InterLeukin-6), cardiotrophin, and GDNF (Glial cell line-Derived Neurotrophic Factor); the member of the IGF family is selected from the group consisting of IGF-1 and IFGF-2; and the member of the FGF family is selected from the group consisting of FGF1, FGF2, FGF3, FGF4, FGF5, FGF6, FGF7, FGF8, FGF9, and TFG-β (Transforming Growth Factor-β).

46. (new) The population of claim 42, wherein the cells of the nervous system are selected from the group consisting of: brain cells, spinal cord cells, neural cells, glial cells and ependymal cells.

47. (new) A method for treating a disease of the nervous system in a patient, comprising administering an effective amount of the recombinant baculovirus of claim 34 to the patient.

48. (new) The method of claim 47, wherein the administration is performed stereotaxically.

49. (new) The method of claim 48, wherein the disease of the nervous system is a neurodegenerative disease, a lysosomal disease, or a combination thereof.

50. (new) A method for producing a population of cells of the nervous system which is infected with the recombinant baculovirus of claim 34, comprising contacting the cells with the recombinant baculovirus.

51. (new) The method of claim 50, wherein the contacting step occurs *ex vivo*.

52. (new) A method for treating a disease of the nervous system in a patient, comprising administering an effective amount of the pharmaceutical composition of claim 44 to the patient.

53. (new) A recombinant baculovirus having a baculovirus envelope protein, comprising a heterologous nucleic acid sequence operatively associated with a

eukaryotic promoter sequence active in nerve cells, the heterologous nucleic acid is a gene encoding a therapeutic product selected from the group consisting of a hormone, a lymphokine, a growth factor, an enzyme for synthesizing a neurotransmitter, a trophic factor, a protein involved in the metabolism of an amino acid, a protein involved in the metabolism of a lipid, and a protein involved in the metabolism of a carbohydrate.

54. (new) The recombinant baculovirus of claim 53, wherein said heterologous nucleic acid sequence further comprises a DNA sequence that encodes for a signal sequence to induce secretion of specific compartmentalization of said therapeutic product.

55. (new) The recombinant baculovirus of claim 54, wherein said therapeutic product comprises β-glucuronidase, NGF (Nerve Growth Factor), BDNF (Brain-Derived Neurotrophic Factor), NT3 (Neurotrophin-3), NT4/5 (Neurotrophin-4/5), and NT6 (Neurotrophin-6), CNFT (Ciliary NeuroTrophic Factor), axokine, LIF (Leukemia Inhibitory Factor), IL6 (InterLeukin-6), cardiotrophin, GDNF (Glial cell line-Derived Neurotrophic Factor), IGF-1 (Insulin Like Growth Factor 1), IFGF-2 (Insulin Like Growth Factor 2), FGF1 (Fibroblast Growth Factor 1), FGF2 (Fibroblast Growth Factor 2), FGF3 (Fibroblast Growth Factor 3), FGF4 (Fibroblast Growth Factor 4), FGF5 (Fibroblast Growth Factor 5), FGF6 (Fibroblast Growth Factor 6), FGF7 (Fibroblast Growth Factor 7), FGF8 (Fibroblast Growth Factor 8), FGF9 (Fibroblast Growth Factor 9), or TFG-β (Transforming Growth Factor-β).

56. (New) A method for expressing a product of therapeutic interest for the treatment of diseases of the nervous system in central nervous system, comprising administering the recombinant baculovirus of claim 34 into the central nervous system, and maintaining the expression of a heterologous nucleic acid sequence encoding a product of therapeutic interest.

57. (New) The method according to claim 56, wherein the heterologous nucleic acid sequence encoding a product of therapeutic interest is operatively associated with CMV (cytomegalovirus) promoter, and the product of therapeutic interest is mainly expressed in glial cells.

58. (New) The method according to claim 56, wherein the promoter sequence is selected from the group consisting of the Neuron Specific Enolase (NSE) promoter sequence, the Neurofilament (NF) promoter sequence, the Tyrosine Hydroxylase (TH) promoter sequence, the Dopamine Transporter (DAT) promoter sequence, the Choline Acetyl Transferase (ChA) promoter sequence, the Dopamine β-Hydroxylase (DBH) promoter sequence, the Tryptophan Hydroxylase (TPH) promoter sequence, the Glutamic Acid Dehydrogenase (GAD) promoter sequence, the Glial Fibrillary Acidic Protein (GFAP) promoter sequence, the phosphoglycerate kinase 1 (PGK) promoter, EF-1 α promoter, CMV (cytomegalovirus) promoter, RSV (Rous Sarcoma Virus) promoter, TK (thymidine kinase) promoter, CAG (CMV enhancer and chicken β-actin promoter) promoter, and HIV (human immunodeficiency virus) LTR (Long Terminal Repeat) promoter.